CLMPTO

01/24/05

AF

11/26/05

1. (Amended) An apparatus comprising:

an optical triggering circuit at a first location within a substantially benign electronic environment, wherein said optical triggering circuit generates an optical trigger signal;

a power circuit located at a second location remote from the first locetion within a substantially harsh electronic environment, wherein said power circuit includes at least one photoconductor thet is responsive to the optical trigger signal generated by the optical triggering circuit; and

an optical cable coupling the optical triggering circuit to the power circuit;

wherein the power circuit is directly driven by the transmission of the optical trigger signal from the optical triggering circuit to the power circuit via the optical cable.

2. (Amended) An apparatus as claimed in claim 1, further comprising a control processor coupled to the optical triggering circuit at the first location, wherein the optical triggering circuit is responsive to receipt of a command signal from the control processor to generate the optical trigger signal.

3. (Amended) An apparatus as claimed in claim 1, further comprising a DC motor coupled to an output of the power circuit at the second location.

4. (Amended) An apparatus as claimed in claim 1, wherein the power circuit includes at least one leg including a pair of transistors, each transistor including a base coupled in series to a corresponding photoconductor, wherein activation of the corresponding photoconductor turns on the transistor.

5. (Amended) An apparatus as claimed in claim 4, further comprising a corresponding shunt photoconductor coupled to the base of each transistor, wherein activation of the corresponding shunt photoconductor turns off the transistor.

6. (Amended) An apparatus as claimed in claim 4, wherein at least one corresponding photoconductor comprises a photoconductive diode including a modified electrode structure.

7. An apparatus as claimed in claim 6, wherein the modified electrode structure includes a plurality of strips formed on a surface of the photoconductive diode.

8. An apparatus as claimed in claim 7, wherein the strips have a width of about 10 μm.

9. An apparatus as claimed in claim 7, wherein the strips have a thickness of between 0.25-1.0 μm.

10. An apparatus as claimed in claim 9, wherein the strips are separated by gaps having a width of about 40 μm.

11. (Amended) An apparatus as claimed in claim 5, wherein at least one corresponding shunt photoconductor comprises a photoconductive diode including a modified electrode structure.

12. An apparatus as claimed in claim 11, wherein the modified electrode structure includes a plurality of strips formed on a surface of the photoconductive diode.

13. An apparatus as claimed in claim 12, wherein the strips have a width of about 10 μm.

14. An apparatus as claimed in claim 12, wherein the strips have a thickness of between 0.25-1.0 μm.

15. An apparatus as claimed in claim 14, wherein the strips are separated by gaps having a width of about 40 μm.

16. (Amended) An apparatus as claimed in claim 4, wherein at least one corresponding photoconductor comprises a photoconductively controlled channel transistor.

17. (Amended) An apparatus as claimed in claim 5, wherein at least one corresponding shunt photoconductor comprises a photoconductively controlled channel transistor.

18. An apparatus as claimed in claim 1, wherein the optical triggering circuit utilizes a laser diode to generate the optical triggering circuit.

19. (Amended) An apparatus as claimed in claim 4, wherein each corresponding photoconductor can carry a current of at least 20 A for 50 ns.